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Regulator/INGAA Meeting on Technical Input to the Gas IMP

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September 19&20, 2000

San Francisco, Ca

Purpose

This meeting is one of a series of meetings between the Office of Pipeline Safety (OPS) and State regulators and the gas pipeline industry on how best to add protection to pipeline segments in high consequence areas (HCAs). The intended outcome of these meetings is a *technical basis document* developed by industry and docketed in support of a rulemaking. The purpose of the meeting was to review technical input being developed by the Interstate Natural Gas Association of America (INGAA) for Integrity Management Programs (IMP). The following topics were addressed:

- Definition of high consequence areas,
- Assessment time frame and baselines,
- Status of validation of direct assessment, and
- Initial discussion of integrity management for pipelines operating with low hoop stresses.

Attendees

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Summary of Key Points

HCA Definition: There was a lengthy discussion of what OPS meant in previous discussions by "Map-Based" approach to defining an HCA.

Inspection Frequency: INGAA is preparing an approach for determining re-inspection intervals. This approach relies on both failure data and analysis of corrosion failure modes to determine the reinspection interval relative to a segment of Class 1 pipe. The entire set of reinspection intervals will then be adjusted to reflect the interval of ten years from the Large Liquid NPRM. This approach recognizes the fact that all liquid pipelines are designed to operate at a maximum operating pressure associated with a hoop stress of 72% Specified Minimum Yield Strength (SMYS), which is equivalent to gas pipelines in Class 1.

Pipeline Inspection Focus: The approach INGAA is advocating is based on reinspection intervals associated with internal and external corrosion threats. Other failure modes (threats) are being addressed by defining areas in which the current regulations (Code) need to be supplemented to ensure their effective *management*.

Low Hoop Stress Pipeline: The American Gas Association (AGA) is beginning literature review and analysis designed to define the hoop stress level below which pipes are expected to leak rather than rupture. Some data and studies indicate that 30% SMYS is that stress level. Pipelines operated at or below that stress level are expected to require enhanced integrity assurance measures everywhere within an HCA, but these measures are likely to focus on prevention and leak detection technologies rather than internal inspection, hydro-testing and direct assessment.

Direct Assessment Technologies: INGAA has committed to make direct assessment technologies equivalent to internal examination and hydro-testing. Thus far, the direct assessment technologies discussed by INGAA have been exclusively focused on detecting the potential for external corrosion by seeking locations where coating holidays or disbondment has occurred. Technologies aimed at locating coating disbondment have not yet been discussed sufficiently for confidence to exist in them, but early evidence indicates that significant potential

exists for technologies such as the Direct Current Voltage Gradient survey (DCVG). Internal corrosion assessment technologies have yet to be discussed. Significant effort is being expended by INGAA to develop and demonstrate means to integrate numerous sources of information about pipeline integrity. This data integration combined with use of expert models (being developed to focus attention on areas of integrity concerns) has the potential to make direct assessment a very powerful assessment technology.